

**WHAT IS CLAIMED IS:**

1. A cutting tool insert comprising a coating and a cemented carbide body, said cemented carbide body comprising WC, 5-10 weight % Co and <0.5 weight % cubic carbides of metals from groups IVb, Vb, or VIb of the periodic table with a highly W-alloyed binder phase having a CW-ratio of 0.75-0.93 and a surface composition of the cemented carbide body being well-defined, the amount of Co on the surface being within -4 weight % to +4 weight % of the nominal Co content of the body and said coating comprising:

a first, innermost, layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  with  $x+y+z=1$  and  $y>x$  and  $z<0.1$  with a thickness of 0.1-2  $\mu\text{m}$ , and with equiaxed grains having a size <0.5  $\mu\text{m}$ ;

a layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  where  $x+y+z=1$ , and  $z=0$ ,  $x>0.3$  and  $y>0.3$ , with a thickness of 5-10  $\mu\text{m}$  with columnar grains having a diameter of <2  $\mu\text{m}$ ;

a layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  where  $x+y+z=1$ ,  $z<0.5$  and  $x>y$  with a thickness of 0.1-2  $\mu\text{m}$  and with equiaxed or needle-like grains having a size <0.5  $\mu\text{m}$ ;

a layer of smooth, textured, fine-grained  $\alpha\text{-Al}_2\text{O}_3$  having a grain size of 0.5-2  $\mu\text{m}$  with a thickness of 3-6  $\mu\text{m}$ ; and

an outer layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  where  $x+y+z=1$ ,  $z<0.05$  with a thickness of 0.5-3  $\mu\text{m}$  and a grain size <1  $\mu\text{m}$ , the outer coating layer having been removed in at least the edge line so that the  $\text{Al}_2\text{O}_3$  layer is on

top along the cutting edge line and the outer layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  is the top layer on the clearance side.

2. The cutting tool insert of claim 1 wherein the  $\alpha\text{-Al}_2\text{O}_3$  layer has a texture in (012)-direction and a texture coefficient  $\text{TC}(012)$  larger than 1.3.

5 *sub A1* 3. ~~The cutting tool insert of claim 1 wherein the first, innermost, layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  has the composition  $z < 0.5$  and  $y < 0.1$ .~~

4. The cutting tool insert of claim 1 wherein the outer  $\text{TiC}_x\text{N}_y\text{O}_z$  layer comprises a multilayer of  $\text{TiN}/\text{TiC}/\text{TiN}$ .

5. The cutting tool insert of claim 1 wherein the binder phase has a CW ratio of from 0.8-0.9.

6. The cutting tool insert of claim 1 wherein the cobalt content of the cemented carbide body is 5-8 weight %.

7. A method of making a cutting insert comprising a cemented carbide body and a coating wherein a WC-Co-based cemented carbide body is sintered, said sintering including a cooling step which at least to below  $1200^\circ\text{C}$  is performed in a hydrogen atmosphere of pressure 0.4-0.9 bar and thereafter coating said sintered body with

a first, innermost, layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  with a thickness of 0.1-2  $\mu\text{m}$ , with equiaxed grains with size  $< 0.5 \mu\text{m}$  by CVD;

a layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  with a thickness of 4-12  $\mu\text{m}$  with columnar grains and with a diameter of  $< 5 \mu\text{m}$  deposited by MTCVD

technique, using acetonitrile as the carbon and nitrogen source for forming the layer in a temperature range of 850°-900°C;

a layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  with a thickness of 0.1-2  $\mu\text{m}$  with equiaxed or needle-like grains with size  $< 0.5 \mu\text{m}$ , using CVD;

5 a layer of a smooth textured  $\alpha\text{-Al}_2\text{O}_3$  textured in the direction (012), (104) or (110) with a thickness of 3-8  $\mu\text{m}$  using CVD; and

an outer layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  with a thickness of 0.5-3  $\mu\text{m}$ , using CVD and thereafter removing the outer layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  on at least the cutting edge line so that the  $\text{Al}_2\text{O}_3$  layer is on top along the cutting edge line and the outer layer of  $\text{TiC}_x\text{N}_y\text{O}_z$  is the top layer on the clearance side of the cutting insert.